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DIETS AND FEEDING SCHEDULES FOR MILK GOATS

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Milk goats will respond to good feed and management much the same as other types of farm animals. There is a popular conception that goats thrive on feeds unsuited for other grazing animals and have peculiar appetites for a variety of materials not ordinarily fed to livestock. Maximum growth and production can be obtained, however, only by following good feeding practices.

Rations for goats can be made up largely from home-grown grains and roughages. During the grazing season, good permanent pastures of mixed grasses, cultivated crops (wheat, rye, barley, soybean, oats and peas, etc.) or abundant browse furnishes the most economical source of feed. It is usually necessary, however, to feed some grain to lactating animals in order to get maximum production. Feeds suitable for sheep and cattle are usually satisfactory for goats.

The necessity for the addition of minerals and protein-rich feeds to rations for milk goats is determined by the character of the feed supplied. Besides common salt, minerals most likely to be deficient in feeds and the ones necessary to supply are calcium and phosphorus. However, all of these may not need to be added to a given ration. When good-quality legumes, such as alfalfa, clover, lespedeza or soybean hay, are fed liberally, less protein-rich concentrates are needed and little or no additional calcium is required. On the other hand, calcium supplements may be needed when the forage is nonleguminous and grown on soils low in calcium. The cereal grains and high-protein byproducts, such as wheat bran, linseed, soybean, and cottonseed meals, are relatively rich in phosphorus and when used in combinations with legume forages form a ration which is generally adequate in calcium and phosphorus. When a nonlegume hay is fed more protein should be furnished by the grain mixture and a calcium-rich supplement such as limestone 1 part and salt 2 parts may be fed. If little or no grain is fed, bonemeal 1 part and salt 2 parts may be provided free choice. Good pasture, especially where there is a stand of legume plants and where the soil is not deficient in either calcium or phosphorus, usually needs little if any supplementation other than common salt. Iodized salt should be given to pregnant does in iodine-deficient areas.

Following are some diets that include ingredients which are ordinarily available. During the spring of 1943, there was a shortage of protein feeds such as the oil meals which are commonly used in grain mixtures. Under these conditions maximum use of legume hays and pasture is encouraged. In cases where linseed, cottonseed or soybean meals are

not available distillers' dried grains may be substituted at the rate of 125 to 150 pounds of dried grains for each 100 pounds of oil meal replaced. Many feeds other than those mentioned may also be utilized.

Suggested Grain Mixtures for Kids (3 to 52 Weeks of Age)

Mixture No. 1:	<u>Pounds</u>	Mixture No. 2:	<u>Pounds</u>
Cracked corn	100	Cracked corn	300
Rolled or ground oats .	100	Rolled or ground oats	300
Wheat bran	50	Wheat bran	100
		Linseed, cottonseed, or soybean meal	100

For kids 3 to 18 weeks of age, one-fourth pound of either mixture 1 or 2 constitutes the grain ration. Milk should be given during the entire period. With grain mixture 1, alfalfa or clover hay is given ad libitum; with mixture 2, clover timothy mixed hay. Pasture is not essential for kids during the early milk-feeding period, but later on pasture can be used to good advantage as an additional source of nutrients.

Kids should receive their mothers' colostrum and goats milk for at least 2 weeks, and thereafter a gradual change to cow's milk or a milk substitute may be made. In the Bureau's herd, kids are separated from their mother within 24 hours after birth and each kid is individually fed 20 ounces of warm, fresh goat's milk daily in four portions of 5 ounces each at approximately 6-hour intervals. During each succeeding week the daily allowance is increased by 4 ounces until at 12 weeks of age each kid is receiving 64 ounces or approximately 2 quarts of milk. From this time until weaning age (18 weeks) the quantity of milk is gradually reduced as the kids consume increasing quantities of hay, grain, and pasture. When the kids are about 4 weeks of age the number of feedings of milk may be reduced to three per day by omitting the night feeding, and at 10 to 14 weeks of age, to two feedings, and from this time on one feeding per day is sufficient.

Kids usually begin to eat a small amount of grain and hay at about 2 to 3 weeks of age, and the grain allowance should be gradually increased to about 1/4 pound daily by the time the animals are 3 months old. The grain ration for kids or yearlings should be slightly higher in protein, as provided in grain mixtures 2 and 4, when mixed clover and timothy hay or a nonlegume hay is fed. It is important that hay used for the feeding of young animals should be of good quality, and preferably a leafy, fine-stemmed legume such as alfalfa or clover. Pasture also may be utilized to good advantage. Over-feeding should be avoided.

For kids 19 to 52 weeks of age, the grain ration should be one-fourth to three-fourths pound of either mixture 1 or 2 when pasture is not available. When the animals are on abundant pasture less grain is needed. Hay feeding is the same as in the case of the kids 3 to 18 weeks of age. In addition to the hay, 1/2 to 1 pound of corn silage or moist beet pulp or roots should be fed daily to each animal when they are not on pasture.

Suggested Grain Mixtures for Yearlings (1 to 1-1/2 Years of Age)

Mixture No. 3:	<u>Pounds</u>	Mixture No. 4:	<u>Pounds</u>
Cracked corn	400	Rolled or ground oats ...	400
Whole oats	400	Ground barley	400
Wheat bran	200	Wheat bran	200
Linseed, cottonseed, or soybean meal	50	Linseed, cottonseed, or soybean meal	50

In addition to a 1-pound ration of either grain mixture 3 or 4, yearling goats should be fed, ad libitum, alfalfa or clover hay with grain mixture 3, and mixed clover and timothy hay with mixture 4. In addition, 1 to 1-1/2 pounds of corn silage or moist beet pulp or roots should be fed daily to each animal when not on pasture. If abundant pasture is available less grain is needed. Kids and yearlings must be liberally fed in order that they will develop into does and bucks of normal size.

Suggested Grain Mixtures for Dry or Pregnant Does

Mixture No. 5:	<u>Pounds</u>	Mixture No. 7:	<u>Pounds</u>
Cracked corn	100	Cracked corn	200
Oats	100	Oats	200
Mixture No. 6:	<u>Pounds</u>	Wheat bran	100
Rolled or ground oats .	100	Linseed, cottonseed, or soybean meal	50
Wheat bran	100		

For dry or pregnant does, 1 to 1-1/2 pounds per day of either mixture 5 or 7 may be fed. A few days before kidding, mixture 6, which is slightly more bulky and laxative, may be fed dry or as a mash in place of either mixture 5 or 7. Grain mixture 5 is recommended when alfalfa or clover hay is fed, and mixture 7 which is slightly higher in protein, may be fed with clover and timothy or nonlegume hay.

Dry or pregnant does should be maintained in a thrifty condition in order to insure the birth of strong, healthy kids. Thin does should be fed more grain in order to prepare them for the following lactation. Dry does may be fed a diet slightly lower in protein than lactating animals. Pasture or a good quality of hay or silage may make up a considerable proportion of the diet of nonlactating animals.

Suggested Grain Mixtures for Milking Does

Mixture No. 3:	Pounds	Mixture No. 8:	Pounds
Cracked corn	400	Rolled or ground oats .	100
Oats	400	Ground wheat	200
Wheat bran	200	Linseed, cottonseed, or	
Linseed, cottonseed, or soybean meal	50	soybean meal	25

Mixture No. 9:	Pounds	Mixture No. 10:	Pounds
Rolled or ground oats	100	Cracked corn	400
Ground barley	200	Rolled or ground oats .	300
Linseed, cottonseed, or		Wheat bran	200
soybean meal	50	Linseed, cottonseed, or	
		soybean meal	150

Milking does should be fed liberally for maximum yield and consistency of production. Does receiving alfalfa or clover hay may be fed 1-1/2 pounds per head daily of grain mixture 3 or 8. When mixed clover and timothy or a nonlegume hay is fed, grain mixture 9 or 10 is suggested. The quantity of grain fed each animal should be regulated according to the amount of milk produced. One pound of grain mixture to each 4 pounds of milk produced has proved to be a conservative quantity to feed if a minimum daily grain allowance of 1-1/2 pounds per head is maintained.

In addition to grain and hay, corn silage or moist beet pulp or roots may be fed at a rate of 1 to 1-1/2 pounds per head daily in the winter or when pasture is not available.

Suggested Grain Mixtures for Mature Bucks

Mixture No. 11:	Pounds	Mixture No. 12:	Pounds
Cracked corn	100	Cracked corn	400
Oats	100	Oats	300
Wheat bran	50	Wheat bran	200
Linseed, cottonseed, or		Linseed, cottonseed, or	
soybean meal	25	soybean meal	100

Bucks should be maintained in a good vigorous condition for best results. This is usually accomplished when 1-1/2 to 2 pounds of grain mixture 11 is fed per head daily in connection with mixed clover and timothy or a nonlegume hay. If alfalfa or clover hay is used, grain mixture 12 may be fed at the same rate. When good pasture or a high-quality legume hay and silage or roots are available, grain feeding may be considerably reduced unless the buck is in poor condition. Grain feeding is usually advisable prior to and during the breeding season.